

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD AND SPECIFICATIONS**

**WETLAND ENHANCEMENT**

(acre)

**CODE 659**

**DEFINITION**

The modification of an existing wetland, where specific functions and/or values are modified for the purpose of meeting specific project objectives.

**PURPOSE**

- Modify the hydrologic condition, hydrophytic plant communities, and/or other biological habitat components of a wetland for the purpose of favoring specific wetland functions or values.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies on any existing wetland where the objective is to specifically enhance a selected wetland function(s) and/or value(s). Examples include: managing site hydrology for waterfowl or amphibian use, or managing plant community composition to favor native plants.

This practice does not apply to unique wetlands such as calcareous fens, bogs, or coastal lakeplain prairies.

Upon completion of the enhancement the site will meet the current NRCS soils, hydrology, and vegetation criteria of a wetland.

This practice does not apply to:  
CONSTRUCTED WETLAND (656) intended to treat point and non-point sources of water pollution; WETLAND RESTORATION (657) intended to rehabilitate a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to original conditions; or WETLAND CREATION (658) for creating a wetland on a site location which historically was not a wetland.

**CRITERIA**

**General Criteria Applicable to all Purposes**

The landowner shall obtain all necessary local, state and federal permits prior to the installation of this practice.

Enhanced wetlands will only be located where the soils, hydrology and vegetation meet the NRCS criteria for a wetland.

Document the soil, hydrology and vegetative characteristics of the site before alteration.

Complete the Wetland Planning Checklist, Appendix A, - Chapter 13, NRCS – Engineering Field Handbook.

The potential for occurrence of threatened or endangered species shall be evaluated for each site proposed for enhancement. Sites containing threatened or endangered species will not be enhanced under this standard unless it can be demonstrated that the impact will benefit the species at risk.

The effect of any modification to the existing surface and/or subsurface drainage system on upstream and downstream landowners shall be evaluated. Upstream surface and subsurface drainage shall not be impacted unless appropriate permissions are obtained or mitigation measures are implemented. All applicable state and local laws and regulations pertaining to flooding, surface and subsurface drainage will be followed.

Excessive nutrient, pesticide, or other pollutant inflows shall be controlled prior to site work. Examples of excessive inflows include direct runoff from a feedlot or other obvious pollution source, an actively eroding gully emptying into the site, or a poorly treated watershed that is

contributing sediment and its associated pollutants.

### **Hydric Soil Condition**

Enhancement sites will be located on hydric soils. If the hydric soil is excavated to improve wetland hydrology, hydric soil will be stock piled and reapplied over the area to a minimum depth of 4 inches.

### **Wetland Hydrology**

The hydrology of the site is defined as the rate and timing of inflow and outflow, source, duration, frequency, and depth of flooding, ponding or saturation.

Wetland hydrology will be created to support the wetland type being established and the wetland function(s) to be enhanced.

If embankments, water control structures, surface or subsurface drainage manipulation, or grade stabilization structures are required use WETLAND RESTORATION (657), or STRUCTURE FOR WATER CONTROL (587).

### **Hydrophytic Vegetation**

Native vegetation will be established for the wetland type(s) being created. Soils and site condition will dictate what vegetation is appropriate.

Preference is given to top-dressing at least 50% of the site with soil containing a seed bank of desired native species to a minimum depth of 4 inches. If natural colonization of native species will realistically dominate within 5 years, then natural regeneration can be left to occur without top-dressing. Specific guidelines that consider soil, seed source, and species will be developed from recommendations by MDC or NRCS biologist.

If the site was predominantly herbaceous vegetation prior to modification and planting is necessary, then a minimum of two species adapted to the site will be planted. Use soils and site information to determine plants to use. Planting rates and species will be based on recommendations from MDC or NRCS biologist.

Forested wetland plantings will include a minimum of three species adapted to the site. Where appropriate, two of the species will be hard mast producing species. Tree planting will

meet the criteria in TREE/SHRUB ESTABLISHMENT (612).

### **Wetland Functions**

Wetland goals and objectives should include targeted wetland functions for the enhanced wetland. When possible, wetland functions not targeted for enhancement should also be maximized.

A functional assessment shall be performed on the site prior to creation using the Hydrogeomorphic (HGM) approach, as identified in the National Food Security Act Manual, or similar method.

See WETLAND WILDLIFE HABITAT MANAGEMENT (644) or SHALLOW WATER MANAGEMENT (646).

### **CONSIDERATIONS**

Consider applying this practice adjacent to existing wetlands to increase wetland system complexity and diversity, decrease habitat fragmentation, and ensure colonization of the site by wetland flora and fauna.

Consider linking wetlands by corridors to enhance the wetland's use and colonization by wetland flora and fauna.

Consider adverse effects on downstream flows or aquifers that would impact other water uses or users.

Consider nutrients, pesticides, and other pollutants contained in surface and ground water, as well as accumulated sediments, that may have an adverse effect on wetland vegetation. The nutrient and pesticide tolerance of the species planned along with the wetland objectives should be considered where known nutrient and pesticide contamination exists.

Consider the need for buffer practices beneficial to wildlife around the perimeter of the site. Plan practices such as FILTER STRIP (393), FIELD BORDER (386) and/or CONSERVATION COVER (327) to create a vegetative buffer between the management unit and adjacent land uses. This buffer should be at least 30 feet wide, or wider, depending on its purpose.

Consider use of these areas by reptiles and amphibians. Stacked logs and/or rock piles may be located near the water's edge to provide critical habitat for local reptile and amphibian species.

## **PLANS AND SPECIFICATIONS**

Plans and specifications for this practice shall be prepared for each site. Plans and specifications shall be recorded using approved specification sheets, job sheets, technical notes, narrative documentation in the conservation plan, or other acceptable documentation.

Plans and specifications for installing structures for water control shall be in keeping with this standard and shall prescribe the requirements for applying the practice to achieve its intended purpose. The plan shall specify the location, grades, dimensions, materials, hydraulic and structural requirements for the individual structure, and the timing or sequence of installation activities. Provisions must be made for necessary maintenance.

NRCS staff is encouraged to work closely with the NRCS Biologist, MDC Biologist, or other wetland specialist in developing site specific plans and specifications.

## **OPERATION AND MAINTENANCE**

An operation and maintenance plan will be prepared for each wetland enhancement site.

A plan for the operation, maintenance, and management of the area shall be developed and recorded using approved job sheets, technical notes, or other forms of acceptable documentation.

The plan shall include monitoring and management of the overall site, as well as structural and vegetative measures. The area should be reviewed annually to see if adjustments are needed in any water/vegetation plan.

Repair and upkeep of the practice (maintenance) shall be carried out as needed, such as repair or replacement of vegetative or structural components.

The following activities will be addressed in the plan: (1) timing and level setting of water control structures required for establishment of desired

hydrologic conditions or for management of vegetation; (2) inspection schedule of embankments and structures for damage assessment; (3) depth of sediment accumulation allowed before removal is required; (4) management needed to maintain vegetation, including control of unwanted vegetation; and (5) acceptable uses and timing (e.g. grazing and haying).

Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible.